

CLAIMS

1. An operation control apparatus for a compressor comprising:
a stroke estimating unit for estimating a stroke of the compressor on
5 the basis of a current and a voltage applied to an interior motor of the
compressor and a motor constant of the interior motor;
a control unit for generating a control signal for varying a stroke of the
compressor on the basis of the estimated stroke value and a preset stroke
reference value; and
10 a current control means for varying a stroke voltage applied to the
interior motor of the compressor in accordance with the control signal.
- 2, The apparatus of claim 1, wherein an OLP (Over Load
Protector) and/or a PTC thermistor (Positive Temperature Coefficient
15 thermistor) are not used for the operation control apparatus.
3. The apparatus of claim 1, wherein the control unit outputs the
control signal for increasing the stroke voltage applied to the compressor
when the compressor is initially driven, to the current control means.
- 20 4. The apparatus for claim 1, wherein, when the estimated stroke
value is smaller than the stroke reference value, the control unit increases a
voltage applied to the compressor by lengthening an on/off period of the
current control means, and, when the estimated stroke value is greater than

the stroke reference value, the control unit decreases a voltage applied to the compressor by shortening the on/off period of the current control means.

5. An operation control apparatus for a compressor comprising:

5 detecting means for detecting a current and a voltage which are applied to a compressor;

a storing means for presetting a standard current value for preventing an overcurrent generated when the compressor initially starts, and storing the set standard current value;

10 a comparing means for comparing the detected current value and the standard current value, and outputting a comparing signal corresponding to the comparing result; and

a control means for cutting off a current applied to the compressor by turning off a current control means installed at the compressor by the
15 comparing result, or for controlling a stroke voltage applied to the compressor by turning on/off the current control means at a certain period.

6. The apparatus of claim 5, wherein the current control means is one of a triac, a GTO transistor (gate turn-off transistor), an IGBT (Insulated
20 Gate bipolar Transistor), a bipolar transistor and a relay.

7. The apparatus of claim 5, wherein the compressor is installed at a refrigerator.

8. The apparatus of claim 5, wherein the control means cuts off a current applied to the compressor by turning off the current control means when the detected current value is greater than the standard current value; and compares the stroke value estimated based on the detected voltage value, the detected current value and a motor constant of an interior motor of the compressor with the preset stroke reference value, and then varies a stroke of the compressor on the basis of the comparing result when the detected current value is smaller than the standard current value.

9. The apparatus of claim 5, wherein an OLP (Over Load Protector) and/or a PTC thermistor (Positive Temperature Coefficient thermistor) are not used for the operation control apparatus.

10. A method for controlling an operation of a compressor comprising the steps of;

detecting a current and a voltage applied to the compressor;

estimating a stroke of the compressor on the basis of the detected values of the current and the voltage and a motor constant of an interior motor of the compressor;

when the estimated stroke value is smaller than a preset stroke reference value, increasing a voltage applied to the compressor by lengthening an on/off period of a current control means installed at the compressor; and when the estimated stroke value is greater than a preset stroke reference value, decreasing a voltage applied to the compressor by

shortening the on/off period of the current control means.

11. A method for controlling an operation of a compressor comprising:

- 5 detecting a current applied to the compressor;
 comparing the detected current value and a preset standard current value;
- cutting off a current applied to the compressor by turning off a current control means installed at the compressor when the detected current value is
- 10 greater than the standard current value; and
- when the detected current value is the same as or smaller than the standard current value, estimating a stroke of the compressor, and controlling a stroke voltage applied to the compressor by turning on/off the current control means at a certain period on the basis of the estimated value and the
- 15 preset stroke standard current value.